



Socioeconomic vulnerability and adaptation to environmental risk: a case study of climate change and flooding in Bangladesh

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Abstract:

In this article we investigate the complex relationship between environmental risk, poverty, and vulnerability in a case study carried out in one of the poorest and most flood-prone countries in the world, focusing on household and community vulnerability and adaptive coping mechanisms. Based upon the steadily growing amount of literature in this field we develop and test our own analytical model. In a large-scale household survey carried out in southeast Bangladesh, we ask almost 700 floodplain residents living without any flood protection along the River Meghna about their flood risk exposure, flood problems, flood damage, and coping mechanisms. Novel in our study is the explicit testing of the effectiveness of adaptive coping strategies to reduce flood damage costs. We show that, households with lower income and less access to productive natural assets face higher exposure to risk of flooding. Disparity in income and asset distribution at community level furthermore tends to be higher at higher risk exposure levels, implying that individually vulnerable households are also collectively more vulnerable. Regarding the identification of coping mechanisms to deal with flood events, we look at both the ex ante household level preparedness for flood events and the ex post availability of community-level support and disaster relief. We find somewhat paradoxically that the people that face the highest risk of flooding are the least well prepared, both in terms of household-level ex ante preparedness and community-level ex post flood relief.

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Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Public

Exposure :

weather or climate related pathway by which climate change affects health

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Extreme Weather Event

Extreme Weather Event: Flooding

Geographic Feature: 

resource focuses on specific type of geography

Freshwater

Geographic Location: 

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Bangladesh

Health Impact: 

specification of health effect or disease related to climate change exposure

Mental Health/Stress


Mental Health Effect/Stress: Stress Disorder

Mitigation/Adaptation: 

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: 

populations at particular risk or vulnerability to climate change impacts

Low Socioeconomic Status

Resource Type: 

format or standard characteristic of resource

Research Article

Resilience: 

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: 

time period studied

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Time Scale Unspecified

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content